



Safety Data Sheet

Copyright, 2016, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 36-4103-2 | Version Number: | 2.00 |
| Issue Date: | 11/03/16 | Supersedes Date: | 07/11/16 |

Product identifier

3M™ Scotchcast™ Multi-Mold Resin Splicing Kit 85-14CPN, with 3M™ Scotchcast™ Resin 4N

ID Number(s):

80-6116-1675-8

Recommended use

Electrical

Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Electrical Markets Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

35-7972-9, 24-9848-3

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M

3M USA SDSs are available at www.3M.com



Safety Data Sheet

Copyright, 2019, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 35-7972-9 | Version Number: | 1.04 |
| Issue Date: | 01/15/19 | Supersedes Date: | 01/18/18 |

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchcast™ Electrical Insulating Resin 4N, Part B

1.2. Recommended use and restrictions on use

Recommended use

Electrical, Part B of Resin 4N

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Electrical Markets Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 1B.

Skin Sensitizer: Category 1A.

Carcinogenicity: Category 1B.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 May cause cancer.

Precautionary Statements**Prevention:**

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Wear protective gloves, protective clothing, and eye/face protection.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER or doctor/physician.
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

13% of the mixture consists of ingredients of unknown acute oral toxicity.
 26% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---------------|------------------------|
| STYRENATED PHENOL | Trade Secret* | 25 - 70 Trade Secret * |
| HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS | 64742-11-6 | 5 - 20 Trade Secret * |
| N-AMINOETHYLPIPERAZINE | 140-31-8 | 5 - 20 Trade Secret * |
| Alkyl Acids, Reaction Products With Triethylenetetramine | Trade Secret* | 5 - 20 Trade Secret * |
| Alkyl Acids, Reaction Products With TETA And DGEBA | Trade Secret* | 4 - 10 Trade Secret * |
| Thermal cracked residuum (petroleum) | 64741-80-6 | 1 - 6 Trade Secret * |
| PETROLEUM DISTILLATES | Trade Secret* | 1 - 6 Trade Secret * |
| Reaction product of cycloaliphatic amine with aromatic | Trade Secret* | 1 - 6 Trade Secret * |

| | | |
|---|------------|----------------------|
| epoxy resin | | |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | 90-72-2 | 1 - 5 Trade Secret * |
| BIS[(DIMETHYLAMINO)METHYL]PHENOL | 71074-89-0 | <= 1 Trade Secret * |
| CARBON BLACK | 1333-86-4 | < 1 Trade Secret * |
| TRIETHYLENETETRAMINE | 112-24-3 | < 1 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Amine Compounds
Carbon monoxide
Carbon dioxide
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|----------------------|------------|--------|---------------------------------|------------------------------|
| TRIETHYLENETETRAMINE | 112-24-3 | AIHA | TWA:6 mg/m3(1 ppm) | SKIN |
| CARBON BLACK | 1333-86-4 | ACGIH | TWA(inhalable fraction):3 mg/m3 | A3: Confirmed animal carcin. |
| CARBON BLACK | 1333-86-4 | OSHA | TWA:3.5 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield
Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Butyl rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Resin |
| Odor, Color, Grade: | Smooth, black liquid with amine odor |
| Odor threshold | <i>No Data Available</i> |
| pH | 10 - 12 |
| Melting point | <i>No Data Available</i> |
| Boiling Point | 607 °F |
| Flash Point | No flash point |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | 4.0 mmHg |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.03 g/ml |
| Specific Gravity | 1.03 [Ref Std: WATER=1] |
| Solubility In Water | 660 ppm [@ 77 °F] |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | 3,000 centipoise - 4,500 centipoise [@ 25 °C] |

Percent volatile

3 % - 5 %

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids

No Data Available

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

May cause additional health effects (see below).

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

May cause additional health effects (see below).

Additional Health Effects:

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|-----------------------|--------------|-------------------------------|---|
| PETROLEUM DISTILLATES | Trade Secret | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| CARBON BLACK | 1333-86-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|---|-----------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE2,000 - 5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE2,000 - 5,000 mg/kg |
| STYRENATED PHENOL | Dermal | Rabbit | LD50 > 5,010 mg/kg |
| STYRENATED PHENOL | Ingestion | Rat | LD50 3,550 mg/kg |
| N-AMINOETHYLPIPERAZINE | Dermal | Rabbit | LD50 865 mg/kg |
| N-AMINOETHYLPIPERAZINE | Ingestion | Rat | LD50 1,470 mg/kg |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Dermal | Rat | LD50 1,280 mg/kg |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Ingestion | Rat | LD50 1,000 mg/kg |
| TRIETHYLENETETRAMINE | Dermal | Rabbit | LD50 550 mg/kg |
| TRIETHYLENETETRAMINE | Ingestion | Rat | LD50 2,500 mg/kg |
| BIS[(DIMETHYLAMINO)METHYL]PHENOL | Ingestion | | LD50 estimated to be 300 - 2,000 mg/kg |
| CARBON BLACK | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| CARBON BLACK | Ingestion | Rat | LD50 > 8,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|-------------------|---------------------------|
| N-AMINOETHYLPIPERAZINE | Rabbit | Corrosive |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Rabbit | Corrosive |
| TRIETHYLENETETRAMINE | Rabbit | Corrosive |
| BIS[(DIMETHYLAMINO)METHYL]PHENOL | similar compounds | Corrosive |
| CARBON BLACK | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|-------------------|---------------------------|
| N-AMINOETHYLPIPERAZINE | Rabbit | Corrosive |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Rabbit | Corrosive |
| TRIETHYLENETETRAMINE | Rabbit | Corrosive |
| BIS[(DIMETHYLAMINO)METHYL]PHENOL | similar compounds | Corrosive |
| CARBON BLACK | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|---|------------|----------------|
| N-AMINOETHYLPIPERAZINE | Guinea pig | Sensitizing |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Guinea pig | Not classified |
| TRIETHYLENETETRAMINE | Guinea pig | Sensitizing |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|--|
| N-AMINOETHYLPIPERAZINE | In vivo | Not mutagenic |
| N-AMINOETHYLPIPERAZINE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | In Vitro | Not mutagenic |
| CARBON BLACK | In Vitro | Not mutagenic |
| CARBON BLACK | In vivo | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|--------------|------------|---------|------------------|
| CARBON BLACK | Dermal | Mouse | Not carcinogenic |
| CARBON BLACK | Ingestion | Mouse | Not carcinogenic |
| CARBON BLACK | Inhalation | Rat | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------|-----------|--|---------|---------------------|--------------------------------|
| N-AMINOETHYLPIPERAZINE | Ingestion | Not classified for female reproduction | Rat | NOAEL 598 mg/kg/day | prematuring & during gestation |
| N-AMINOETHYLPIPERAZINE | Ingestion | Not classified for male reproduction | Rat | NOAEL 409 mg/kg/day | 32 days |
| N-AMINOETHYLPIPERAZINE | Ingestion | Not classified for development | Rat | NOAEL 899 mg/kg/day | prematuring & during gestation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------|------------|------------------------|--|---------|---------------------|-------------------|
| N-AMINOETHYLPIPERAZINE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| TRIS(2,4,6- | Inhalation | respiratory irritation | Some positive data exist, but the | | NOAEL Not | |

| | | | | | | |
|--------------------------------|--|--|--|--|-----------|--|
| DIMETHYLAMINOMONOMETHYL)PHENOL | | | data are not sufficient for classification | | available | |
|--------------------------------|--|--|--|--|-----------|--|

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|--|----------------|---------|---------------------|-----------------------|
| N-AMINOETHYLPIPERAZINE | Ingestion | heart endocrine system hematopoietic system liver nervous system kidney and/or bladder | Not classified | Rat | NOAEL 598 mg/kg/day | 28 days |
| TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL | Dermal | skin liver nervous system auditory system hematopoietic system eyes | Not classified | Rat | NOAEL 125 mg/kg/day | 28 days |
| CARBON BLACK | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

| |
|-------------------------|
| Physical Hazards |
| Not applicable |

| |
|--|
| Health Hazards |
| Carcinogenicity |
| Hazard Not Otherwise Classified (HNOC) |
| Respiratory or Skin Sensitization |
| Serious eye damage or eye irritation |
| Skin Corrosion or Irritation |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *3 Flammability: 1 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 35-7972-9 | Version Number: | 1.04 |
| Issue Date: | 01/15/19 | Supersedes Date: | 01/18/18 |

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued.3MMAKES

NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M USA SDSs are available at www.3M.com



Safety Data Sheet

Copyright, 2018, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 24-9848-3 | Version Number: | 3.00 |
| Issue Date: | 05/22/18 | Supersedes Date: | 01/04/18 |

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchcast™ Electrical Insulating Resin 4, Part A and 3M™ Scotchcast™ Electrical Insulating Resin 4N, Part A

1.2. Recommended use and restrictions on use

Recommended use

Electrical, Part A of Resin 4 & Resin 4N

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Electrical Markets Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|------------|-------------------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | 25085-99-8 | 80 - 100 Trade Secret * |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | 68609-97-2 | 0 - 20 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|-------------------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Toxic Vapor, Gas, Particulate | During Combustion |

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--------------------------------|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Resin |
| Odor, Color, Grade: | Clear, amber resin with epoxy odor |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>No Data Available</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | >= 201 °F |
| Flash Point | >= 201 °F [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>No Data Available</i> |

| | |
|--|-------------------------------------|
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <= 27 psia [@ 131 °F] |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.16 g/ml |
| Specific Gravity | 1.16 [Ref Std:WATER=1] |
| Solubility in Water | Negligible |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | 3,000 centipoise - 5,000 centipoise |
| Average particle size | <i>No Data Available</i> |
| Bulk density | <i>No Data Available</i> |
| Hazardous Air Pollutants | <i>No Data Available</i> |
| Molecular weight | <i>No Data Available</i> |
| Volatile Organic Compounds | <i>No Data Available</i> |
| Percent volatile | Negligible |
| Softening point | <i>No Data Available</i> |
| VOC Less H2O & Exempt Solvents | <i>No Data Available</i> |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be

relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

No known health effects.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|--|-----------|---------|--|
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Dermal | Rat | LD50 > 1,600 mg/kg |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Ingestion | Rat | LD50 > 1,000 mg/kg |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Dermal | Rabbit | LD50 > 4,000 mg/kg |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Ingestion | Rat | LD50 17,100 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|---------|---------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Rabbit | Mild irritant |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Rabbit | Mild irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|---------|-------------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Rabbit | Moderate irritant |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|--|------------------|-------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Human and animal | Sensitizing |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Guinea pig | Sensitizing |

Respiratory Sensitization

| Name | Species | Value |
|------|---------|-------|
|------|---------|-------|

| | | |
|--|-------|----------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Human | Not classified |
|--|-------|----------------|

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | In vivo | Not mutagenic |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | In vivo | Not mutagenic |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|--|--------|---------|--|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|---------|---------------------|----------------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Dermal | Not classified for development | Rat | NOAEL 200 mg/kg/day | during organogenesis |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|--------|--|----------------|---------|-------------------|-------------------|
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES | Dermal | heart blood liver nervous system kidney and/or bladder | Not classified | Rabbit | NOAEL 4,000 mg/kg | 24 hours |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|----------------|---------|-----------------------|-------------------|
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer | Ingestion | auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| OXIRANE, MONO[(C12- | Dermal | nervous system | Not classified | Rat | NOAEL 100 | 14 weeks |

| | | | | | | |
|--|--------|--|----------------|-----|---------------------|----------|
| 14-ALKYLOXY)METHYL] DERIVATIVES | | respiratory system | | | mg/kg/day | |
| OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL] DERIVATIVES | Dermal | blood liver eyes kidney and/or bladder | Not classified | Rat | NOAEL 100 mg/kg/day | 13 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

| |
|--------------------------------------|
| Respiratory or Skin Sensitization |
| Serious eye damage or eye irritation |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 Flammability: 1 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 24-9848-3 | Version Number: | 3.00 |
| Issue Date: | 05/22/18 | Supersedes Date: | 01/04/18 |

Reason for Reissue

Conversion to GHS format SDS.

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M USA SDSs are available at www.3M.com